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IWG-10/6
IWG-2/41(Rev.2)
June 15, 1999

**United States of America
Proposal for the Work of the Conference
Proposal for Agenda Item 1.11
and to Add an Agenda Item to Resolution 722**

“to consider constraints on existing allocations and to consider additional allocations on a worldwide basis for the non-geostationary (non-GSO) MSS below 1 GHz, taking into account the results of ITU-R studies conducted in response to Resolutions **214 (Rev. WRC-97)** and **219 (WRC-97)**”

Modification of Resolution 219

The proposal herein amends Resolution 219 to take into account the most recent studies supporting the need for additional spectrum for non-GSO MSS, and the possibility of increasing the efficiency of spectrum utilization in the band 401-406 MHz by existing systems which might make it possible for a portion of the band segment 405-406 MHz be allocated to non-GSO MSS. The proposal recommends that this allocation be considered at WRC-02/03.

Background

Resolution 219, adopted at WRC-97, noted the significant shortfall of spectrum for non-GSO MSS below 1 GHz and that there is an urgent need to make additional spectrum available on a worldwide basis for such systems.

It also noted that the development of more spectrum-efficient meteorological aids systems is continuing in order to minimize the bandwidth required by these systems.

The Revised Resolution adds a new invitation to the ITU-R to study such more spectrum-efficient technologies and operational techniques on an urgent basis.

Preliminary View

The "U.S. should pursue an allocation in the NVNG MSS in the 405-406 MHz band, pending the results of ITU-R studies..." (The remainder of the Preliminary View notes the need for the development of a transition plan for metajds, and the need to protect services in nearby bands.)

Supporting Information

Studies are underway to examine spectrum efficient utilization of this band. A preliminary study of one such spectrum-efficient technology, based on CDMA, has been submitted to US WP 7C (Doc. USWP 7C/78 for its consideration. While several problems and limitations of this technique have been noted in the United States and elsewhere, further study is continuing.

Proposed Agenda Item for Resolution 722 (WRC-2003/4):

Provide new agenda item 2.xx for WRC-02/03 as follows:

“to consider additional allocations on a worldwide basis for the non-geostationary (non-GSO) MSS below 1 GHz, taking into account the results of ITU-R studies conducted in response to Resolution 219 (WRC-2000);”

Proposal

The proposed revision of Resolution 219, and the Reason for its revision, are given in the Annex.

RESOLUTION 219 (WRC-97-2000)

**STUDIES RELATING TO CONSIDERATION OF THE ALLOCATION TO THE
NON-GEOSTATIONARY MOBILE-SATELLITE SERVICE (MSS) IN THE METEOROLOGICAL
AIDS BAND 405 - 406 MHz AND THE
IMPACT ON PRIMARY SERVICES ALLOCATED IN THE
ADJACENT BANDS**

The World Radiocommunication Conference (~~Geneva, 1997~~Istanbul, 2000),

considering

- a) that there is a significant shortfall of spectrum for the non-geostationary (non-GSO) mobile-satellite service (MSS) below 1 GHz, and there is an urgent need to make additional spectrum available on a worldwide basis for such non-GSO MSS systems;
- b) that the Report of the 1997⁹ Conference Preparatory Meeting (CPM-97 99) to ~~this Conference~~ WRC-97 2000 states that the Radiocommunication Bureau (BR) has identified ~~23~~ 22 non-GSO MSS networks as of [28 April, 1999], at frequencies below 1 GHz, at some state of coordination under Resolution 46/~~S9.11A~~ of the Radio Regulations, ~~that it is likely that a number of these systems may not be implemented for reasons not connected with spectrum availability and that several administrations have indicated in their information submitted to BR that they plan on implementing these non-GSO MSS systems by the year 2002 or earlier; — However, it appears that many of the proposed networks cannot be implemented in the existing allocation because there is not enough spectrum readily available without applying S9.21 to allow the development of all these systems.~~
- c) ~~that the CPM-97 Report for WRC-97 also states that it appears that many of the proposed networks cannot be implemented in the existing allocations because there is not enough spectrum to allow the development of all of these systems in an economically viable manner;~~
- c) that the CPM-99 Report for WRC-2000 described an extensive study carried out by an administration in 1996 which identified a need for spectrum beyond the current allocations, identifying a spectrum requirement for service links of about 17 MHz on a shared basis, and an additional 4 MHz of shared spectrum for feeder links;
- d) that the CPM-99 Report for WRC-2000 also mentioned more recent reports carried out in 1997-1998 which support the estimates made in the 1996 study.
- ~~d)e)~~ e) that meteorological aids systems are essential to produce the upper air measurements required by the World Meteorological Organization (WMO), as summarized in Recommendation ITU-R SA.1165, and that systems using the band 400.15 - 406 MHz constitute the majority of the mobile and fixed observation stations worldwide;
- ~~e)f)~~ f) that meteorological aids systems are also essential to produce the upper air measurements required for civilian and other applications;
- ~~f)g)~~ g) that the amount of spectrum required by meteorological users, including WMO (station spacing requirement of 250 km), civilian users and other related users, in most geographical areas is about 5 MHz in the band 401 - 406 MHz using the currently employed technology;
- ~~g)~~ that since this Conference upgraded the allocation to the earth exploration-satellite service and the meteorological-satellite service to primary in the band 401 - 403 MHz, this is likely to impose constraints on the meteorological aids service in this band in certain geographical areas;

h) that the CPM-99 Report for WRC-2000 stated that in the long term, improved technology and operational techniques may result in more efficient use of the band 401-406 MHz by the existing services, which may enable future review of requirements for this band;

i) that the development of more spectrum-efficient meteorological aids systems is continuing in order to minimize the bandwidth required by these systems, as outlined in Recommendation SA.1165, and that recent development of these related technologies has been rapid;

j) that sharing studies to date have shown that co-channel sharing between currently proposed non-GSO MSS systems and meteorological aids in the band 401 - 406 MHz is not generally feasible, that any sharing would require band segmentation and that the band 405 - 406 MHz has been named by some administrations as a possible candidate band for such a new allocation;

k) that any transition of meteorological aids from the band 405 - 406 MHz should not increase the operational costs of meteorological aids networks beyond the available financial resources, and should not constrain the future development of the meteorological aids service, while using more spectrum-efficient systems;

l) that the COSPAS-SARSAT system operates within an exclusive allocation in the band 406 - 406.1 MHz, that the radio astronomy service has a primary allocation in the band 406.1 - 410 MHz and that these services need to be protected from MSS transmissions including unwanted emissions,

noting

a) that the possible use of the band 405 - 406 MHz by the mobile-satellite service should be limited to systems using narrow-band modulation techniques until further ITU-R studies conclude that other modulation techniques can protect COSPAS-SARSAT (406 - 406.1 MHz) and the radio astronomy service (406.1 - 410 MHz);

b) that Resolution **214 (Rev.WRC-97)** also addresses sharing studies relating to consideration of the allocation of bands below 1 GHz to the non-GSO MSS,

resolves to invite ITU-R

1. as a matter of urgency, to study improved technology and operational techniques which may result in more efficient use of the band 401-406 MHz by the existing services;

2. as a matter of urgency, upon completion of the studies in resolves 1, with the participation of WMO, to assess further the current and future requirements of the meteorological aids service in the band 401 - 406 MHz, taking into account the requirements of the earth exploration-satellite service and the meteorological-satellite service in the band 401 - 403 MHz;

3. as a matter of urgency, upon completion of the studies in resolves 1, with the participation of WMO, to consider the possible transition of the meteorological aids service out of the band 405 - 406 MHz, which would minimize the impact on the meteorological aids service, while taking into account requirements for the implementation of non-GSO MSS;

4. to consider, based on the outcome of 1, 2, and 3, above, a possible transition plan, including a transition date at which time meteorological aids could migrate their operations out of the band 405 - 406 MHz and MSS operations could commence;

5. ~~as a matter of urgency, to study, with the participation of IUCAF and other relevant entities, the impact of unwanted emissions on the COSPAS-SARSAT system in the band 406 - 406.1 MHz and the radio astronomy service in the band 406.1 - 410 MHz, and identify appropriate protection measures for these services;~~

resolves

that the ~~1999~~ 2002/2003 World Radiocommunication Conference (~~WRC- 99 02/03~~)/~~a future competent conference~~ be invited to consider, based on the outcome of *resolves to invite ITU-R* above, the possibility of allocating the band 405 - 406 MHz to the mobile-satellite service, including any appropriate transition plan,

urges administrations

1 to assess their current and future requirements for meteorological aids systems in the band 401 - 406 MHz taking into account the requirements of the earth exploration-satellite service and the meteorological-satellite service in the 401 - 403 MHz band;

2 to, either individually or on a subregional or regional basis, report to WMO and ITU-R on whether the whole of the band 401 - 406 MHz will be needed for meteorological aids, and the possibility of transition out of the band 405 - 406 MHz;

3 to submit to ITU-R the most up-to-date information on their plans for possible implementation of non-GSO MSS systems and the associated spectrum requirements,

instructs the Secretary-General

to bring this Resolution to the attention of WMO.

REASON: To take account of the continuing need for additional spectrum below 1 GHz for non-GSO MSS service links, and to impart a greater sense of urgency to the development of more spectrum-efficient techniques by meteorological aids systems in the band 401-406 MHz.

United States of America
PROPOSALS FOR THE WORK OF THE CONFERENCE

Proposal for Agenda Item 7.2

(to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent Conference and on possible agenda items for future conferences)

Background Information:

It is proposed to add an item to Resolution 722, Preliminary Agenda for the 02/03 World Radiocommunication Conference, to include consideration of non-GSO MSS allocations below 1 GHz, as invited by the modified Resolution 219.

Proposal:

USA/z/2

ADD

RESOLUTION 722 (WRC-1997)

Preliminary Agenda for the 2002/03 World Radiocommunication Conference

2.xx to consider additional allocations on a worldwide basis for the non-geostationary (non-GSO) MSS below 1 GHz, taking into account the results of ITU-R studies conducted in response to Resolution **219 (WRC-2000)**;

Reason: To include in the WRC-02/03 Agenda the consideration of additional allocations for the non-GSO/MSS as invited by Resolution 219 as revised by WRC-2000.
